

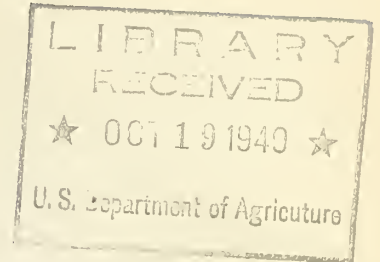
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THE INSECT PEST SURVEY  
BULLETIN



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BUREAU OF  
ENTOMOLOGY AND PLANT QUARANTINE  
UNITED STATES  
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## THE MORE IMPORTANT RECORDS FOR SEPTEMBER

Fall armyworm was reported in destructive abundance late in August and early in September in many localities in Mississippi and in southern California, late corn being the principal crop attacked.

Light-to-moderate infestations of hessian fly are reported from throughout Illinois, southeastern Nebraska, southern Iowa, and west-central Missouri.

Damage by corn ear worm was generally reported as later and less severe than usual in the Northern States.

European corn borer in the New England area was less troublesome than usual. In eastern New York a heavy outbreak occurred in Monroe County. Damage by this insect was also reported from Delaware, Maryland, and Virginia, a very severe outbreak occurring in Princess Anne County, Va. Light infestations were reported from four counties west of the heretofore known infested area in Wisconsin.

Severe damage by second-brood chinch bugs was reported from Missouri, with rather heavy infestations from central, eastern, and southeastern Nebraska and light infestations in southeastern Iowa.

Corn leaf aphid is generally more prevalent than for several years in Indiana and a few localities in Minnesota and Nebraska.

A very heavy infestation of walkingsticks was reported from a small area in Wisconsin, where forest trees and raspberries were practically defoliated.

Rather heavy infestations by second-generation codling moths were reported from the New England, the South Atlantic, and the East Central States. Heavy infestations were reported from parts of Nevada and Washington.

Extensive and rather severe damage by apple maggot was reported from southern New England.

Comstock's mealybug had completed its second-generation oviposition by the end of September and early laid eggs of the third generation began hatching about August 1 in Albemarle County, Va. Damage in this county ranged from 5 to 80 per cent.

Owing to the lack of a second-brood infestation in peaches by the plum curculio in Georgia, the hibernating population will be lighter than average in that State.

Pear psylla has been discovered threateningly near important fruit-growing areas in Washington State.

Internal rot of fresh figs, which is spread by Blastophaga, is seriously prevalent this year in California. Heavy spoilation caused by the dried-fruit beetle is very serious in the Fresno area.

Potato flea beetle damage was extremely heavy in parts of Washington State.

Mexican bean beetle recovered very materially in the South Atlantic States from the severe set-back it received in the very hot midsummer weather.

Damage to squash by the squash bug was reported from widely scattered areas, including Maine, Wisconsin, Iowa, Nebraska, Utah, and Oregon.

Late damage to cotton by boll weevil was reported from a number of areas in the eastern part of the Cotton Belt; however, the fall population appears to be lower than usual, except in parts of Texas.

Bollworm damage continued into September throughout most of the Cotton Belt.

Leaf worms were generally prevalent in the East, with slight damage to cotton, however. In Texas they were less injurious than for many years.

The cotton leaf perforator was more prevalent in Pima County, Ariz., than for many years.

Fall webworm was reported as damaging persimmon, sourwood, and pecan in the South Atlantic and Gulf States.



GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Tennessee. L. B. Scott (September 19): Grasshoppers caused serious damage to tobacco early in the season in north-central Tennessee. Damage decreased as season progressed but moderate damage is still being done. Damaged more tobacco in 1940 than all other insects combined.
- Indiana. L. F. Steiner (September 5): Completely defoliated many apple replants in some orchards in the Vincennes area.
- Ohio. T. H. Parks (September 21): Became quite abundant during August in half a dozen central and several northern Ohio counties. Some defoliation of young apple trees occurred and in Pickaway County a 15-acre field of corn was ruined. Hybrid corn strains show marked difference in susceptibility to injury.
- Michigan. R. Hutson (September 23): Eggs, chiefly Melanoplus mexicanus Sauss. more numerous than last year in Emmet, Cheboygan, Antrim, Charlevoix, Presque Isle, Alpena, Crawford, Otsego, and Montmorency Counties.
- Wisconsin. E. L. Chambers (September 26): Damage much less this summer than for several years. Adult survey indicates that serious trouble may be expected from less than one-fourth of the area previously having serious losses. Considerable migration of M. mexicanus during latter part of August. Very few eggs laid up to September 15.
- Iowa. H. E. Jaques (September): Rather scarce in northwestern and southeastern parts of the State, but rather widely scattered throughout southwestern quarter.
- Missouri. G. D. Jones (September 25): M. differentialis Thos. still ovipositing in central Missouri. Recent observations in scattered areas in southeastern Missouri showed a considerable second-brood infestation of fourth-instar nymphs of M. bivittatus Say.
- Oklahoma. C. F. Stiles (September 27): Reported as numerous with some local heavy infestations throughout northeastern Oklahoma. Principal species involved is M. differentialis. Second brood M. mexicanus has been hatching over a period of several weeks in the northern half of Texas County and the northeastern part of Cimarron County and is damaging early sown wheat. Grasshoppers are now in all instars and from 30 to 40 percent are adults.
- F. A. Fenton (September 28): The most serious insect outbreak in the State in the past month is that of M. mexicanus in Cimarron and Texas Counties. The second generation of this grasshopper is now developing and strong flights have been reported coming in from Kansas. Eggs of this species were deposited throughout the northern part of Texas County and in small areas in Cimarron County in July. These eggs have hatched and the young hoppers are damaging newly seeded wheat and rather mature grain sorghums. About 25 to 50 percent of these grasshoppers had matured to adults by September 25.

Utah. G. F. Knowlton (September 18): Still active and laying eggs in many northern localities.

Washington. L. G. Smith (August 27): Northward flight from heavily populated M. mexicanus area in the extreme western part of the Yakima Indian Reservation occurred on August 10. Migrations occurred from lightly populated dry rangeland areas into truck gardens in Benton and Franklin Counties during the week ended August 17. Population in truck gardens was light to moderate.

California. S. Lockwood (September 18): M. bivittatus is now depositing eggs in the northern quarter of the State. Egg development of M. devastator Scudd. has hardly started. Most females have shrunken bodies, though in Siskiyou County beginning of egg development was observed a week ago. Considerable work is being done now on the second hatch of the migratory M. mexicanus in the Imperial Valley. Eggs of Oedaleonotus enigma Scudd. have been deposited since early in June.

MORMON CRICKET (Anabrus simplex Hald.)

California. S. Lockwood (September 18): Very light infestation found in southwestern part of Mono County, in the Little Round Valley area.

EUROPEAN EARWIG (Forficula auricularia L.)

New York. R. E. Horsey (September): Numerous in gardens and entering houses in Rochester in the latter part of August.

Washington. L. G. Smith (August 28): Very common in gardens at Yakima on August 19, attacking various plants.

JAPANESE BEETLE (Popillia japonica Newm.)

Rhode Island. B. Eddy (September 24): Fifty percent more abundant than last year. Spreading but not in alarming numbers.

Connecticut. J. P. Johnson (September 24): Feeding on low vegetation, shrubs, and some of the smaller trees. Adults emerged 2 to 3 weeks late.

New York. M. D. Leonard (September 24): A few beetles were reported feeding in a garden at Bay Shore, Long Island.

New Jersey. M. D. Leonard (September 13): A number of beetles were feeding on flowers of marigolds and roses in a large garden at Wycoff. Several apple trees, Virginia creeper vines, and grapevines, as well as birches, showed considerable foliage injury in the same garden. Quite a few beetles were feeding on marigold flowers in a garden at Montclair.

GREEN JUNE BEETLE (Cotinis nitida L.)

Massachusetts. E. P. Felt (September 24): Reported as feeding on exudations from trees at Amherst.



Pennsylvania. E. P. Felt (September 24): Reported as obtaining food from trees at Philadelphia.

Maryland. E. N. Cory (September 21): Attacking spinach, kale, and other seedling crops.

Tennessee. G. M. Bentley (September 25): Very scarce this year.

BUMBLE FLOWER BEETLE (Euphoria inda L.)

Michigan. R. Hutson (September 23): Common at Fenton.

Tennessee. G. M. Bentley (September 16): Unusually numerous this year, primarily in the blossoms of many flowering shrubs.

CUTWORMS (Noctuidae)

Utah. C. J. Sorenson (September 17): The pale western cutworm (Agrotis orthogonia Morr.) was found feeding in chrysothamnus blossoms in the dry-farm area of the Lehi-Cedar Valley districts. None found on September 10.

Washington. C. W. Getzendauer (August 10): The variegated cutworm (Peridroma margaritosa Haw.) defoliated potato vines and tubers were attacked both below the surface of the ground and on the surface, if left out over night during digging. Rhubarb defoliated and stems injured, causing rot in a field adjacent to the potatoes at Puyallup. (August 15): Causing moderate damage. From one to several larvae at base of nearly every tomato plant in a garden at Puyallup.

(August 3): A noctuid, Acronycta sp., caused moderate damage to leaves and some damage to flowers of tuberous begonia under slats in a small commercial planting at Puyallup.

FALL ARMYWORM (Laphygna frugiperda A. & S.)

Mississippi. C. Lyle (September 25): Specimens received from Hinds County late in August and reported as seriously damaging late corn at Choctaw, Holmes, Lincoln, and Webster Counties, in the Jackson district, and in north-eastern counties. Sorghum was being injured in Lincoln County.

L. Bridges (August 27): Light-to-heavy damage to late corn in Marion and Walthall Counties. Late corn attacked chiefly as it is planted after Irish potatoes and other truck crops.

Louisiana. C. O. Eddy (September 28): The grass worm has damaged late corn.

California. R. E. Campbell (September 19): Several fields of young sweet and field corn in Orange and Los Angeles Counties, suffered considerable foliage injury. Leaves were shredded and there were considerable feeding on the tassels.

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Florida. J. R. Watson (September 23): Not as serious as in former years, undoubtedly because of severe freeze last winter.

Louisiana. C. O. Eddy (September 28): The soybean caterpillar was observed at Baton Rouge on September 23 in adult and larval stages.

BUTTERFLIES (Lepidoptera)

Florida. H. T. Fernald (September 10 and 11): Considerable numbers of Catopsilia eubule L. and Dione vanillae L. flying southward along the ocean on land just back of the beach proper at Daytona, all heading the same way and obliquely fighting a rather strong east wind. No evidence of this flight either before or after these two dates.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say).

Illinois. W. P. Flint (September): At present there is a light-to-moderate infestation in practically all sections of the State.

Nebraska. H. D. Tate (September 16): Reported from August 27 to September 12 as occurring in Otoe, Lancaster, Pawnee, Cass, and Butler Counties. Moderately heavy in a few southeastern counties.

Iowa. H. E. Jaques (September): Light infestations reported in seven southern counties.

Missouri. L. Haseman (September 25): Practically no evidence of flaxseeds in the stubble examination covering southwestern, southeastern, northeastern, northwestern, and central Missouri. In central and west-central Missouri, where summer rains caused scattered growth of volunteer wheat, a few fields show that 20 percent of the plants contain flaxseeds.

CORN

CORN EAR WORM (Heliothis armigera Hbn.)

Maine. J. H. Hawkins (September 20): Infestation is later than usual and less numerous than last year. Only ears of corn of the open type were infested.

Indiana. E. V. Walter (August 30): Rather abundant in sweet corn silking between July 10 and 18, but almost entirely absent since then. Nearly all eggs appear to have been deposited from July 14 to 18.

Iowa. H. E. Jaques (September): Light infestations in scattered localities throughout the State.

Missouri. L. Haseman (September 24): Extremely heavy brood in sweet corn and late field corn throughout central Missouri and reports indicate that the same is true for much of the State. Most of the larvae of this brood are practically full grown or already leaving the ears.

Washington. L. G. Smith (August 28): Abundant as usual on corn in Yakima County. On the night of August 13, 110 moths were captured in a light trap placed in a cornfield.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Massachusetts. A. I. Bourne (September 24): Second brood appeared somewhat later than normal and damage has been very slow in developing. Moths observed in or near cornfields within the last week. Damage by this brood much less than usual.

Rhode Island. B. Eddy (September 24): Stalks, tassels, and stubble have an average of 3 to 6 borers. Attacking corn ears much less than usual.

New York. N. Y. State Coll. Agr. News Letter (September 3): Still causing much damage to corn, the worst for some years in Monroe County.

Delaware. L. A. Stearns (August 24): Reported as infesting one-third of stalk in a corn planting at Millsboro.

Maryland. E. N. Cory (September 21): Large increase in Harford County and in southern Eastern Shore counties.

Virginia. H. G. Walker and L. D. Anderson (September 24): Severe outbreak occurred in Pungo district of Princess Anne County, 1 dissected cornstalk containing 162 borers and several others containing more than 100. Still relatively scarce in Kempsville district of Princess Anne County, although it appears to be somewhat more abundant than last year. A field of corn near New Church, on the Eastern Shore, was found to be rather heavily infested, 1 stalk containing 45 borers.

Ohio. E. W. Mendenhall (September 11): Numerous and causing considerable damage to field corn in Perry Township, Lake County.

Wisconsin. E. L. Chambers (September 16): First-record infestations observed in Portage, Waushara, Columbia, and Walworth Counties, with no noticeable damage. Reported on 86 farms in 26 counties, the borers ranging from 1 to 3 or 4 per hill and only a few hills found infested in a field.

SOUTHERN CORNSTALK BORER (Diatraea crambidoides Grote)

Virginia. L. A. Hetrick (September 5): Severely injured late corn planting in Mathews County.



SOUTHWESTERN CORN BORER (Diatraea grandiosella Dyar)

Oklahoma. C. F. Stiles (September 27): Severely damaging corn being grown on subirrigated soil in the vicinity of Tipton, Tillman County. On September 7 many stalks contained practically full-grown larvae, and a few pupal cases were found where adults had emerged earlier.

SADDLEBACK CATERPILLAR (Sibine stimulea Clem.)

Delaware. L. A. Stearns (September 5): Reported on rose in some numbers. Specimens received from Wilmington.

Virginia. H. G. Walker and L. D. Anderson (September 24): Larvae reported as being so abundant in some cornfields on the Eastern Shore that their nettling hairs are causing considerable pain and inconvenience to harvesters.

Ohio. T. H. Parks (September 24): Specimens found on corn received from many widely scattered points during August and September.

CHINCH BUGS (Blissus leucopterus Say)

Iowa. H. E. Jaques (September): Light infestations reported in scattered localities in northwestern and southeastern Iowa, with light-to-moderate infestations throughout the southwestern part of the State.

Missouri. P. C. Stone (September 25): Weather conditions favorable for development of second brood. Most bugs were in third instar in central Missouri during week ended September 21. Severe second-brood damage noticed in north-central Missouri, with moderate-to-heavy infestation in cornfields in central part of State. Larger numbers of adults will go into hibernation this fall than for several years.

Nebraska. H. D. Tate (September 16): Reported as being abundant in Madison County on August 16. Infestation remains at a destructive level in a number of central, eastern, and southeastern counties, despite reduction in population, owing to weather conditions during hatching and early nymphal growth of second generation. Damage evident on corn and sorghum.

CORN LEAF APHID (Aphis maidis Fitch)

Indiana. E. V. Walter (August 30): More abundant than it has been for several years. Parasites and predators increased during the last few years and nearly cleared up the infestation by August 20.

Minnesota. A. G. Ruggles and assistants (September 10): Very prevalent on corn tassels late in July and early in August in Cottonwood and Wilkin Counties.

Nebraska. H. D. Tate (September 16): Specimens received from Madison and Hayes Counties on August 16 and 21, respectively. Reported as heavily infesting corn and sorghum.

CORN LANTERNFLY (Peregrinus maidis Ashm.)

Louisiana. C. O. Eddy (September 28): This insect has been very abundant in young corn in the last 6 weeks.

CORN ROOTWORM (Diabrotica longicornis Say)

Rhode Island. B. Eddy (September 24): Reported for first time this year. Found in cornfield.

Ohio. T. H. Parks (September 13): Specimens received from Cincinnati, where they were very abundant on green corn silks.

Iowa. H. E. Jaques (September): Light infestations reported in Crawford, Shelby, Mahaska, and Des Moines Counties.

ALFALFA

ALFALFA WEEVIL (Hypera postica (Gyll.))

California. A. E. Michelbacher (September 24): Very scarce in infested portions of San Joaquin Valley, and in the region adjacent to the San Francisco Bay. Larvae were collected in only one field on September 23.

ALFALFA CATERPILLAR (Colias eurytheme Bdv.)

California. A. E. Michelbacher (September 24): No longer troublesome in the San Joaquin Valley and the San Francisco Bay region, largely because of a wilt disease of the larvae and because of the larval parasite Apanteles flaviconchae Riley. Nearly 100 percent of the small larvae are parasitized.

SORGHUM

SORGHUM WEBWORM (Colama sorghiella Riley)

South Carolina. F. Sherman and W. C. Nettles (September 24): Abundant in young sorghum seed heads late in August. A considerable number are parasitized.

F. McAlister (September 14): Specimens received which were reared from seed heads of sorghum collected in field at Clemson on September 6. (Det. by C. Heinrich.)

COWPEAS

COWPEA CURCULIO (Chalcodermus ceneus Boh.)

Georgia. T. L. Bissell (September 21): Less numerous this month at Experiment. Peas sent from Blairsville, northeastern Georgia, on September 5 had less than 1-percent infestation.



COWPEA WEEVIL (Callosobruchus maculatus F.)

Georgia. T. L. Bissell (September 21): Eggs often seen in field on cowpea pods. Small parasite present, presumably Uscana semifumipennis Gir.

TIMOTHY

A MITE (Gallyntrotus hystrix Nal.)

Virginia. F. W. Poos (May 28): Reported as occurring on timothy at Arlington. First record of occurrence in North America. Some injury observed but whether it was caused by this mite was not definitely determined. (Det. by H. H. Keifer.)

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis F.)

Louisiana. A. L. Dugas (September 28): Infestation throughout cane area extremely light, only a few localized areas being infested to any appreciable extent. Parasitization by Trichogramma is high in most fields.

SUGARCANE ROOTSTOCK WEEVIL (Anacentrinus subnudus Buch.)

Louisiana. A. L. Dugas (September 28): Damage about normal. This weevil was probably not affected by the severe winter and by the unfavorable weather during the spring and summer.

F R U I T I N S E C T S

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Alabama. J. M. Robinson (September 18): Reported as occurring on peach tree at Florence on August 20.

Mississippi. C. Lyle and assistants (September 25): Abundant in orchards in the Meridian district. Report of injury received from Clarke County.

ROUNDHEADED APPLE TREE BORER (Saperda candida F.)

Massachusetts. L. R. Fike (September 9): Specimens found in trunk or bark and roots of apple trees at Great Barrington.

Missouri. L. Haseman (September 25): Reported as scarce through central Missouri. Orchards abundantly infested in previous years show practically no infestation.

Nebraska. H. D. Tate (September 16): Reported in Clay County on August 30.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York. R. E. Horsey (September 7): Severely infesting several small mountain ash trees at Rochester.

Wisconsin. E. L. Chambers (September 26): Still limited to a few counties but gradually spreading northward. Now established in Brown County at Green Bay and De Pere.

Mississippi. C. Lyle (September 25): Reported as killing young peach trees in Hinds County, and heavy infestations noted on apple and peach in the Meridian area.

CHERRY SCALE (Aspidiotus forbesi Johns.)

South Carolina. W. M. Upholt (September 19): Less plentiful than last year.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

Virginia. H. G. Walker and L. D. Anderson (September 24): Appears to be causing more trouble than last year in the Norfolk district.

Mississippi. D. W. Grimes (September 25): Very abundant on a privet hedge in Sunflower County.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Maine. F. H. Lathrop (September 23): Unusually abundant in apple-growing sections of the State.

New York. D. W. Hamilton (September 23): Very few adults taken in bait traps since September 1 at Poughkeepsie in the Hudson River Valley. Only an occasional new larval entrance now found in the fruit.

Virginia. A. M. Woodside (September 24): Infestation on apple generally heavier than last year in Augusta County. A few moths are still being captured in bait traps. Some larvae pupating as late as August 20.

South Carolina. W. M. Upholt (September 19): Very abundant in the Clemson College apple orchard; injured fruit running up to 60 and 70 percent of the Golden Delicious as they are harvested.

Ohio. T. H. Parks (September 25): A few adults still being caught in bait pans at Columbus until September 10. More than usual numbers of second-generation larvae encountered.

Indiana. L. F. Steiner (August 29): Bait-trap catches in orchards in the Vincennes area during last 10 days total 7,444. Weather conditions somewhat unfavorable to adult activity have reduced the catches since the peak on August 25 and 26, but weekly treatment of 10 trees today yielded the largest population of the season (87 moths, as compared with the previous high of 68 on July 18), so that period of maximum oviposition by this brood may now be occurring. Female population in trees today was twice that of a week ago and exceeds the male population. (September 5): Bait-trap catches in Vincennes area about one-third as high as on August 25 and 26. Very heavy third-brood attack under way. Damage appears more severe than in 1939, this being true in many instances on varieties bearing full crops, although their proximity to light-bearing or nonbearing trees

tended to cause a concentration of the population on them.

General. L. F. Steiner (September 21): An unusually heavy and late third-brood attack was observed during the first three weeks of September throughout southwestern Indiana, northern Kentucky and adjacent areas in Illinois. The infestation is considerably above normal.

Missouri. L. Haseman (September 24): Many of the third-brood larvae in central Missouri now leaving fruit.

Nevada. G. G. Schweis (September 18): Damage unusually severe on pears and apple in western Nevada. Untreated fruit practically 100-percent infested.

Washington. L. G. Smith (August 20): High point reached on August 4 and another on August 16-18. Oviposition heavy throughout month. Beginning about July 10, some larvae failed to pupate and, for week ended July 19, 4 percent showed indications of delaying pupation until spring. Increase in number of larvae leaving fruit noted last week.

Washington. E. J. Newcomer, et al. (September 27): More abundant in the Yakima Valley as compared with average year. Pupation of larvae decreased more rapidly in August than in 1939, with the result that there were fewer moths in the orchards in September than last year. Oviposition declined during the month. However, growers report that their crops are wormier than in 1939, even though the same spray schedule was followed. This may be the result of a gradual build-up of population over several years on account of mild winters and an increasing number of neglected orchards.

#### LAPPET MOTH (Epicnaptera americana Harr.)

Washington. E. J. Newcomer (July 12): A specimen taken at light in an apple orchard in Yakima. (Det. by C. Heinrich.)

#### APPLE MAGGOT (Rhagoletis pomonella Walsh)

Massachusetts. A. I. Bourne (September 24): Extensive damage reported from southeastern part of State, apparently caused by late-season attack which occurred after date of last treatment, or by migration of flies which emerged from uncared-for trees or blocks in immediate vicinity of treated orchards.

Connecticut. P. Garman (September 24): Severe in untreated or not fully treated orchards in New Haven County. More abundant than usual.

#### LEAFHOPPERS (Cicadellidae)

Connecticut. P. Garman (September 24): Typhlocyba pomaria McAtee moderately abundant in general to very abundant in a few orchards in New Haven County.

Indiana. L. F. Steiner (September 5): Leafhoppers severe enough in some treated orchards round Vincennes to cause some reduction in size of fruit.



CONSTOCK'S MEALYBUG (Pseudococcus constocki Kuw.)

Virginia and West Virginia. G. J. Haussler (September 30): Found infesting apple this season in the vicinity of Hollins and Cloverdale (Botetourt County), Lovingson (Nelson County), general throughout Albemarle County, and at Berryville (Clark County), Va. and in Jefferson and Berkeley Counties of West Virginia at Ranson and Knowlesville, respectively. In Albemarle County, the second generation had completed oviposition by September 26, eggs of the third generation began hatching about August 1, and first and second instar nymphs of that generation were feeding in abundant numbers throughout September. Mealybug damage to apples in this county ranged from approximately 5 to 81 percent, with Winesap showing the most severe damage.

South Carolina. W. M. Upholt (September 19): More plentiful than ever, but has spread very little this year.

Ohio. J. S. Houser (September 12): Specimens of small mealybugs collected from Dutchman's pipe vine on September 6 and September 14 at Painesville. (Det. by H. Morrison.)

APPLE SEED CHALCID (Callinome druparum Boh.)

Ohio. T. H. Parks (September 20): Apples deformed in a commercial orchard near Wooster. Grimes Golden is chief variety affected, with some trees having from 50 to 60 percent of the fruits deformed. Most seeds contain larvae.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (September 24): Severe in many peach orchards.

Missouri. L. Haseman (September 24): Pears and apples in central Missouri showing considerable injury in some orchards. Larvae approaching maturity

Mississippi. C. Lyle (September 25): Injured peach twigs received from Madison County. Injury reported from Attala and Hinds County, the Meridian district, and the northeastern counties. Frequent injury to pear fruit observed in southeastern counties.

Texas. W. S. McGregor (September 21): Reported as injuring peach twigs in Harrison County on September 1.

PEACH BORER (Conopia exitiosa Say)

Georgia. O. I. Snapp (September 18): Heavy moth emergence last week. Infestation at Fort Valley, central Georgia, no heavier than that of an average year.

Mississippi. C. Lyle and assistants (September 25): Infestations observed in the Meridian district.

Missouri. L. Haseman (September 25): Reported by peach growers in southeastern and southwestern Missouri, but extremely scarce throughout central Missouri.

Nebraska. H. D. Tate (September 16): Reported from Greeley and Otoe Counties on August 23 and September 9, respectively.

Texas. R. K. Fletcher (September 16): Injuring peach in Shelby County.

#### PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia. O. I. Snapp (September 20): Since there was no second-brood plum curculio attack on the Georgia peach crop this year, no usual late-summer increase of adults in the orchards resulted from the emergence of second-generation adults. Hibernating population will be lighter than that of an average season. After peach harvest, 59.4 percent of new beetles deposited second-generation eggs in the insectary. This is 10.6 percent less than in 1937 and 11.6 percent less than in 1938, but 10.7 percent more than in 1936 and 7.1 percent more than in 1939. No second-generation eggs were deposited before the end of peach harvest. Percentages of new beetles depositing second-generation eggs by the end of peach harvest in other years are as follows: 1937, 61 percent; 1938, 37 percent; 1939, 46.2 percent. Last second-generation egg was deposited on September 5, as compared with August 3, 1936, August 6 in 1937, August 8 in 1938, and August 16 in 1939.

#### PEAR

##### PEAR PSYLLA (Psylla pyricola Foerst.)

Washington. L. G. Smith (September 11): Infestation reported as spreading to Adams and Franklin Counties, having been discovered at both Connell and Page, in Franklin County, which brings it threateningly near to important fruit areas. Effort is being made through tree removal to create a host-free barrier, thus confining the infestation to the severely infested area around Spokane County. Fifty percent of the noncommercial pear and quince trees have already been removed from Franklin County.

##### COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Washington. L. G. Smith (August 19): Reported as being noted on winter pear trees in Kittitas County.

#### CHERRY

##### CHERRY FRUITWORMS (Rhagoletis spp.)

California. D. B. Mackie (September 20): Four adult specimens of R. fausta O.S. collected in vicinity of Sierra City on August 1, feeding on bitter cherry, (Prunus emarginata.) First indication that this species is native of the State. Its congener, R. cingulata Loew, was found to occur from the Oregon line to the southward through Sequoia National Park, utilizing the same host species. Surveys indicate that this food plant occurs in the Sierra Madre, San Bernardino, and San Jacinto Mountains, as well as in the Sierra Nevada.



PLUM

PEAR SLUG (Calirpa cerasi L.)

Massachusetts. E. P. Felt (September 24): Injurious to purple-leaved plum at Cambridge.

Washington. L. G. Smith (August 14): Reported as commonly found attacking pear and cherry trees in Kittitas County.

BLACKBERRY

ORANGE TORTRIX (Argyrotaenia citrana Fern.)

Washington. W. W. Baker (September 18): Rather abundant around Puyallup in some fields of loganberries and related berries in 1939 and 1940; but in 1940 first evidence was received that blackberries were being attacked. Fruit may be entered or only exterior attacked. Adults present in field since about third week in July and all stages of larvae have been present for most of that time. Slight damage to fruit is by the larger larvae.

GRAPE

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Mississippi. N. L. Douglass (September 25): Heavily infesting grape in one locality in Tallahatchie County.

Missouri. L. Haseman (September 25): Brood of maturing larvae still feeding heavily on untreated vineyards through central Missouri.

California. G. H. Kaloostian (August 23): Light to very heavy infestations present in Fresno and Tulare Counties. Damage to grapes, resulting in bunch decay, observed in the Parlier and Selma districts of Fresno County.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Ohio. T. H. Parks and G. A. Runner (September 25): Infestation in Ohio grape belt west of Cleveland is again variable from vineyard to vineyard, but decidedly less than in 1939. Few vineyards will suffer heavy losses.

GRAPE TRUNK BORER (Clytopletus albofasciatus Lap.)

Ohio. G. A. Runner (September 24): This cerambycid continues to be a serious pest in older vineyards near Sandusky, where it is abundant. The inner wood of the main trunks of many vines shows heavy infestations of the partly grown larvae, which form the overwintering stage of this borer.

GRAPE CURCULIO (Craponius inaequalis Say)

Georgia. T. L. Bissell (September 9): Specimens of infested scuppernong grape berries received from Atlanta.

GRAPE LEAFHOPPER (Erythroneura comes Say)

Ohio. G. A. Runner (September 24): Late infestation somewhat lighter than usual in most vineyards in the Sandusky-Lake Erie area.

Utah. G. F. Knowlton (August 27): Causing serious injury to some varieties of grape foliage and to Virginia creeper. (September 12): From 50 to 90 per cent of Virginia creeper leaves brown or dropped in northern Utah.

Nebraska. H. D. Tate (August 19): Reported as feeding on woodbine in Franklin County.

Washington. L. G. Smith (September 11): Injury to grapes observed during tours in Benton and Yakima Counties the last week in August.

A LEAFHOPPER (Erythroneura elegantula Osb.)

California. P. Simmons and G. H. Kaloostian (September 13): Collection made to-day by beating foliage over a net 50 times in a vineyard near Exeter, Tulare County, contained 226 leafhoppers, all apparently of this species. In some sections of the San Joaquin Valley, where control measures were neglected, more damage has been done to grape foliage by this species than for several years. (Det. by P. W. Oman.)

PECAN

PECAN WEEVIL (Curculio caryae Horn)

Georgia. T. L. Bissell (September 21): Moderate-to-heavy infestation at Milner, Zebulon, and Thomaston, central Georgia, on September 17. Ovipositing taking place. At Americus, southwestern Georgia, on September 18, 1 nut out of 50 examined was found with a sting--that is, the weevil puncture had not penetrated the shell. Some damage found yearly in this locality, but not to compare with that in the Milner and Zebulon section.

Alabama. J. M. Robinson (September 18): Reported as attacking pecans at Huntsville on August 26.

HICKORY NUT CURCULIO (Conotrachelus affinis Boh.)

Mississippi. C. Lyle (September 25): Larvae infesting pecan nuts were received from Bolivar and Quitman Counties.

HICKORY SHUCK WORM (Laspeyrosia caryana Fitch)

Mississippi. C. Lyle (September 25): Specimens received from Quitman County the latter part of August.

BLACK PECAN APHID (Melanocallis caryaefoliae Davis)

South Carolina. F. Sherman and W. C. Nettles (September 24): Troublesome in eastern part of State, especially after treatment with bordeaux was applied

Georgia. O. I. Snapp (September 12): Heavy infestation developed in Fort Valley during the last 2 weeks, causing considerable foliage injury in several pecan groves.

T. L. Bissell (September 21): Moderate infestation at Milner and Zebulon on September 17, but no defoliation seen. Moderate-to-severe infestations at Fort Valley and Americus on September 18, with defoliation beginning where proper treatment had not been given.

A BOSTRICHID (Xylobiops basillare Say)

Oklahoma. C. F. Stiles (September 27): Reported as doing considerable damage to pecan in Sequoyah County.

CITRUS

WOOLLY WHITEFLY (Aleurothrixus howardi Quaint.)

Florida. M. R. Osburn (September 17): Heavily infesting a few orange trees west of Fort Pierce.

GREEN CITRUS APHID (Aphis spiraccola Patch)

Florida. H. T. Fernald (September 18): Very abundant in some localities of Orange County and doing considerable damage to tip leaves of new orange-tree growth.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Alabama. J. M. Robinson (September 18): Adults very abundant for 3 weeks on foliage of Japanese privet at Auburn. (September 20): Fall generation adults very abundant in parts of Orange County, owing to lack of fungus which usually checks them.

SCALE INSECTS (Coccidae)

Florida. M. R. Osburn (September 17): Chrysomphalus aonidum L. reproducing rapidly in Fort Pierce area and some citrus trees are becoming heavily infested.

Louisiana. I. J. Becnel (September 28): Population of Chrysomphalus dictyospermi Mord. has increased since the spring and infestations are general throughout lower Plaquemines Parish. Treated trees are relatively free of this scale. It has not reestablished itself in trees defoliated by the cold weather of last winter.



California. R. S. Woglum (September): Heavy increase of Aonidiella aurantii Mask. in all districts. Branches carry a heavy population in many orchards. Rapidly moving out from wood onto the fruit. Weather this summer has been favorable for development of Saissetia oleae Bern. Mortality has been light and in the double-brooded areas toward the coast it is already out of control in most orchards. Lepidosaphes beckii Newm. continued hatching during August, which is very unusual.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. M. R. Osburn (September 17): Infestations on the increase again in citrus groves near Fort Pierce following a period of low infestation during summer months.

Louisiana. I. J. Becnel (September 28): Fruit in untreated groves in Plaquemine Parish showing signs of injury.

A CITRUS MITE (Anychus clarki McG.)

Texas. P. T. Rihard (August 22): Collected from citrus leaves at Weslaco on August 17. (Det. by E. A. McGregor.)

FIG

BLASTOPHAGA (Blastophaga psenes L.)

California. P. Simmons (September 19): Internal rot or endosepsis more serious in Calimyrna figs than for several years, a disease which is spread by Blastophaga from infected caprifigs.

DRIED FRUIT BEETLE (Carpophilus hemipterus L.)

California. D. F. Barnes (September 19): Spoilage of Adriatic figs in Fresno County from infestation by the dried fruit beetle and from souring is more serious than for several years, as indicated by midharvest trapping, fig examinations, and general observations.

MEALYBUGS (Pseudococcus spp.)

Mississippi. C. Lyle and assistants (September 25): Received from Harrison County, where they were feeding on a "paradise plant." Reported as very abundant on fig in the Gulfport district.

TRUCK - CROP INSECTS

STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

Wisconsin. E. L. Chambers (September 26): Unusually severe on cucumbers and apparently responsible for spread and development of an unusually large amount of mosaic.

Alabama. J. M. Robinson (September 7): Reported as attacking watermelons at Notasulga.

Mississippi. C. Lyle (September 25): Specimens received from Holmes County where they were feeding on gourd. Light infestations noted on squash in Harrison County and on late beans in the Meridian district.

Louisiana. C. O. Eddy (September 29): Occurred in large numbers, in spots, during the month.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Louisiana. C. O. Eddy (September 28): Exceedingly rare, only about a dozen specimens having been observed.

BLISTER BEETLES (Meloidae)

Ohio. E. W. Mendenhall (September 10): Epicauta pennsylvanica Deg. is doing some damage to gladiolus blooms in Lake County and to plantations in northern Ohio.

Virginia. H. G. Walker and L. D. Anderson (September 25): On tomatoes and other crops in August and early in September at Norfolk.

South Carolina. W. M. Upholt (September 19): E. marginata F. abundant in late tomatoes this week.

Tennessee. G. M. Bentley (September 25): E. vittata F. occurred in large numbers throughout the State on Irish potatoes and several of the leguminous forage crops.

Mississippi. C. Lyle (September 25): Blister beetles reported as numerous in George, Green, and Jackson Counties. E. lemiscata F. reported as abundant in Grenada, Tate, and Yalobusha Counties; also in the Meridian district, where tomatoes were injured, and in the northeastern counties where they came to lights at night.

L. Bridges (August 27): E. marginata damage to sweetpotatoes light. Tomatoes in some gardens are entirely stripped of foliage and even fruit. Damage occurred in Marion and Walthall Counties.

FLEA BEETLES (Halticinae)

Florida. J. R. Watson (September 23): Phyllotreta vittata F. doing severe damage in parts of Bradford County.



Mississippi. C. Lyle and assistants (September 25): Specimens of P. vittata discedens Weise were collected on turnips in Holmes County. Reported as injuring turnips in Rankin County. Few specimens of Epitrix parvula F. and E. fuscata Crotch recently taken from eggplant in Leflore County.

SOUTHERN MOLE CRICKET (Scapteriscus acletus R. & H.)

Florida. J. R. Watson (September 23): Reported as damaging truck crops in general, especially strawberries.

POTATO AND TOMATO

CORN EAR WORM (Heliothis armigera F.)

Virginia. H. G. Walker and L. D. Anderson (September 24): Damaging small field of tomatoes near Norfolk.

South Carolina. F. Sherman and W. C. Nettles (September 24): Damaging late tomatoes in Spartanburg County.

Georgia. T. L. Bissell (September 19): Damaging dahlia buds and open flowers at Experiment.

Mississippi. C. Lyle (September 25): Specimens in cotton received from Copiah County the latter part of August. Reported as injuring tomatoes in the Meridian district and in Madison and Pike Counties, corn in the Durant area, and gladiolus plants in Jackson County.

Nevada. G. G. Schweis (September 18): Considerably damaged sweet corn and tomatoes late in growing season.

California. A. E. Michelbacher (September 24): Very destructive on tomatoes in parts of central California.

POTATO TUBER WORM (Gnorimoschema operculella Zell.)

Nebraska. H. D. Tato (August 31): Collected from potatoes near Lincoln. (Det. by C. Heinrich.)

TOMATO PINWORM (Keiferia lycopersicella Busck)

California. A. E. Michelbacher (September 24): Serious infestation occurred in a greenhouse near San Leandro. Reporter believes this is the first time it has been found in destructive numbers in the San Francisco Bay area.

POTATO FLEA BEETLES (Epitrix spp.)

Washington. E. W. Jones (September 16): Second-generation adults of E. cucumeris Harr. emerged first week in September in Kittitas Valley. Untreated fields averaged 27 adults per potato plant and leaves were severely eaten. Tubers in the same fields were heavily damaged, containing around 100 tunnels per tuber.

L. G. Smith (September 5): E. subcrinita Lec. observed in potatoes from Pullman, Whitman County, with considerable tunneling by larvae. Channels very shallow in contrast to those in other districts.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Minnesota. D. A. Peet (September 11): Very abundant in Clay County.

A MITE (Phyllocoptes sp.)

California. A. E. Michelbacher (September 24): Found doing considerable damage to tomato near Tracy. Reported as being destructive to tomatoes near Sacramento. (A new mite to be described soon.)

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

New York. N. Y. State Coll. Agr. News Letter (September 3): Larvae of the second brood growing rapidly in Suffolk County.

Virginia. H. G. Walker and L. D. Anderson (September 24): Heavy infestation developing on beans during first part of July. High percentage killed during the latter part of July, owing to weather conditions, and the beetles are still rather scarce in many of the beanfields at Norfolk.

South Carolina. F. Sherman and W. C. Nettles (September 24): Set back during midsummer heat but now recovering in numbers.

Mississippi. C. Lyle (September 25): Specimens were feeding on butter beans in Covington County the latter part of August. Reported from Jasper, Oktibbeha, and Smith Counties. Heavy damage to beans reported from the Grenada and Meridian districts and from the northeastern counties.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Mississippi. C. Lyle (September 25): Causing injury to cowpeas in the Durant area, and reported on beans at State College and in Copiah County.

Louisiana. C. O. Eddy (September 26): Abundant in the trucking sections of south Louisiana.

COTTON-SQUARE BORER (Strymon melinus Hbn.)

Ohio. T. H. Parks (September 10): Larvae have been eating holes in bean pods and making them unfit for market. Rather abundant in Pike County.

GREEN STINKBUG (Acrosternum hilare Say)

Virginia. L. A. Hetrick (September 24): Specimens sent in from Mathews County in September, with report that they were injuring butter beans.

PEAS

PEA WEEVIL (Bruchus pisorum L.)

Correction.--Washington and Oregon. L. G. Smith (July 30): In the September 1, 1940, Bulletin, the first sentence on page 395 should read: "About 25 percent less dusting was necessary than last year."

Washington. L. G. Smith (September 11): Adults observed in great numbers seeking hibernation quarters on window and door screens of houses in Pullman, Whitman County, on September 7 and 8. Numbers of bluebirds were feeding on adults.

PEA APHID (Macrosiphum pisi Kltb.)

Utah. G. F. Knowlton (September 24): Destroyed a 1-acre test plot of fall canning peas at Deweyville and are destroying a field of similar-size at Fielding, both in Box Elder County. Ladybird beetle adults and larvae, also syrphid larvae, are moderately abundant in both patches.

PEA MOTH (Laspeyresia nigricana Steph.)

Maine. J. H. Hawkins (September 1): Sent from Aroostook County. Injury to pea crop negligible. (Det. by C. Heinrich.)

LESSER CORNSTALK BORER (Elasmopalpus lignosellus Zell.)

Alabama. J. M. Robinson (August 26): Reported as attacking peas at Ozark.

. SOUTHERN GREEN STINKBUG (Nezara viridula L.)

Mississippi. G. L. Bond (September 25): Damaging late peas and other truck crops in the southeastern counties.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Virginia. H. G. Walker and L. D. Anderson (September 24): Very scarce in the Norfolk area.

Wisconsin. E. L. Chambers (September 26): Seriously injured cabbage throughout southern Wisconsin.



CABBAGE WEBWORM (Hellula undalis F.)

South Carolina. F. Sherman and W. C. Nettles (September 24): Usually abundant throughout much of the State.

CABBAGE LOOPER (Autographa brassicae Riley)

Virginia. H. G. Walker and L. D. Anderson (September 24): Moderately abundant in some cabbage fields in the Norfolk area during the last 2 weeks, but bacterial disease has killed many.

DIAMONDBACK MOTH (Plutella maculipennis Curt.)

Virginia. H. G. Walker and L. D. Anderson (September 24): Rather scarce at Norfolk, and a rather high percentage of the larvae appear to be parasitized.

HARLEQUIN BUG (Murgantia histrionica Hahn)

South Carolina. F. Sherman and W. C. Nettles (September 24): Severely damaged a 4-acre planting of collards in Anderson County.

Mississippi. C. Lyle (September 25): Specimens collected on collards in Jones County, and reported as injuring collards and turnips in Bolivar and Rankin Counties, collards in Holmes and Simpson Counties and in the southwestern counties, and turnips in Holmes County and the Meridian district.

L. Bridges (August 27): Collards sapped so badly in Marion and Waltham Counties that the plants are dying.

APHIDS (Aphididae)

Virginia. H. G. Walker and L. D. Anderson (September 24): Light infestation beginning to build up in a cabbage field near Oceana, Princess Anne County.

Nebraska. H. D. Tate (September 6): Heavily infested cabbage leaves received from Dawes County.

SQUASH

SQUASH BUG (Anasa tristis Deg.)

Maine. J. H. Hawkins (September 11): Sufficiently abundant to destroy the plants in many fields and gardens.

Wisconsin. E. L. Chambers (September 26): Unusually abundant throughout the State this fall, causing unusual damage, particularly to squash and pumpkin.



Iowa. H. E. Jaques (September): Moderate infestations reported from six counties in the southeastern part of the State and light infestations reported from Crawford and Cherokee Counties, in the western part of the State.

Nebraska. H. D. Tate (August 26): Request for control received from Dawson County.

Utah. G. F. Knowlton (August 28): Several reports received from Davis and Utah Counties.

Oregon. L. G. Smith (August 8): Plentiful on squash in Umatilla County.

SQUASH BORER (Molittia satyriniformis Hbn.)

New York. N. Y. State Coll. Agr. News Letter (September 3): Injury appearing in plantings, notably in those of the Hubbard variety. Light infestation.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Mississippi. T. F. McGehee (September 25): Large numbers injuring squash flowers in Harrison County.

MELONS

MELON APHID (Aphis gossypii Glov.)

Nebraska. H. D. Tate (August 29): Reported from Seward County.

Utah. G. F. Knowlton (August 28): Injuring cantaloups in Greenriver, Emery County, and in Weber County.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Utah. G. F. Knowlton (September 18): Beetles and larvae heavily attacking small asparagus patch at Logan.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

California. E. A. McGregor (September): Myriads of winged aphids noticed about 8 a. m. on November 19, 1939, at Whittier. Between 8 and 10 a. m. they became increasingly abundant but almost disappeared during midday. Dispersion flight became very dense in late afternoon and climax was reached shortly before sunset, the estimated average interval between aphids being about 2 feet. Myriads of aphids encountered again 2 miles west of Pomona on December 1. Migration so dense as to impair visibility slightly, especially as aphids were intercepted on windshield. Similar migratory flights observed on one or two previous occasions in central California, but these flights were early in the spring. No fall movement ever previously seen by reporter. (Det. by P. W. Mason.)

SWEETPOTATO

A LEPIDOPTERON (Bedellia minor Busck)

Louisiana. C. O. Eddy (September 28): Occurred on sweetpotatoes in large numbers in and around Baton Rouge this summer. (Det. by C. Heinrich.)

TORTOISE BEETLES (Cassidinae)

Mississippi. C. Lyle (September 25): Chelymorpha cassidea F. reported on sweetpotatoes in the Grenada district, and Metriona bivittata Say rather numerous on sweetpotato plants in the Jackson area and the Grenada district.

STRAWBERRY

SEED CORN BEETLE (Agonoderus lecontei Chaud.)

Nebraska. H. D. Tate (August 24): Adult specimens sent in on August 24 from Cheyenne County. Reported as causing damage to strawberries.

COMMON RED SPIDER (Tetranychus telarius L.)

Ohio. E. W. Mendenhall (September 11): Found causing some damage on plants in strawberry plantations in Lake County.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. G. F. Knowlton (September 18): Severe in many northern sugar beet fields, although some fields appear to be nearly up to average of other years. (September 25): Reported as causing severe damage in a number of sugar beet fields in the Garland-Riverside area.

BEAN APHID (Aphis rumicis L.)

Michigan. R. Hutson (September 23): Reported on a sugar beet from Akron.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula F.)

Tennessee. L. B. Scott (September 19): Caused practically no damage to tobacco in north-central Tennessee.

HORNWORMS (Protoparce spp.)

Tennessee. L. B. Scott (September 19): More abundant on tobacco late in August and in September than in June, July, and early in August, when they were very scarce, but infestation was less than normal in north-central Tennessee. Apanteles congregatus Say unusually abundant on larvae, more than 50 percent of the larvae feeding on dark fire-cured tobacco showing signs of attack. Even higher percentage of parasitization on larvae feeding on burley tobacco.

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. F. Bondy, et al. (August 24): Few in Florence County and not multiplying fast. Total of 66 caught on 4 flight-screen traps during week, making a total of 141 so far this month. Total of 806 caught in August 1939, as compared to 707 in August 1938. (August 31): Total of 45 caught on 4 flight traps during week, making a total of 186 weevils for August, as compared to 806 for the same period in 1939 and 707 in 1938.

Georgia. R. T. Harwell (August 23): Squares so scarce in Berrien and Cook Counties that accurate infestation counts are practically impossible. Boll damage considerably heavier than last week.

P. M. Gilmer, et al. (September 1): Large numbers in all untreated sea-island fields in Tift, Cook, Berrien, Lowndes, and Echols Counties. Movement from short cotton almost complete, comparatively few weevils being found in upland fields. Lack of control measures because of weather conditions caused serious middle-crop damage in some fields. Migrating brood much lighter than that of last year, probably a little lighter than a normal brood, but very large considering the exceedingly light hibernating brood survival. Still entering fields in considerably reduced numbers, the peak of migration apparently having occurred from about August 15 to 20. Sea-island cotton, where treated, has lost the larger part of the top crop set before August 20, and in the worst hit fields a part of the middle crop.

P. M. Gilmer, et al. (September 21): There will be a rather light hibernating brood, as compared with the preceding 2 or 3 years. Fall migration is well under way.

Florida. C. S. Rude, et al. (August 31): Thirty-five percent infestation, as compared to 32 percent a week ago. Large number of young bolls in many fields that will mature if they are protected from the weevil. In Union County 3 fields examined were all infested from 46.6 to 72 percent; in Alachua County 16 fields examined were all infested from 1 to 97.4 percent; in Gilchrist County all of 10 fields examined were infested from 1.2 to 27 percent; and in Marion County all of 12 fields examined were infested from 2.4 to 32 percent, 7 of the fields having too few squares to make infestation counts.

Mississippi. C. Lyle (September 25): Generally abundant over the State and puncturing squares of all cotton that is still fruiting, especially in the central and northern parts.

R. L. McGarr, et al. (September 7): High infestation noted in all cotton examined this week in Oktibbeha and Lowndes Counties. Apparently about as abundant now as at this time last year, when they were unusually plentiful. Big increase in infestation occurred late in the season this year, whereas in 1939 it occurred rather early in the season.



E. W. Dunnam, et al. (September 7): In 1 field of young cotton on the Experiment Station at Stoneville, Washington County, 100 squares were inspected and an infestation of 12 percent found. Interfield movement is still taking place. Fully 90 percent emerging from squares in late cotton. Early planted cotton now has a few grubs in top bolls, none of which have pupated. Most top bolls are clean. (September 28): Normal emergence. Bolls examined indicated that 10 percent were infested, or around 2 percent of the locks in top bolls.

Louisiana. R. C. Gaines, et al. (September 7): Observations in Madison Parish indicate that damage will be heavy. Weevils taken on field-flight screens for week ended September 6 totaled 100, as compared with 82 in 1939, and 366 in 1938. (September 21): For week ended September 22 the weevils taken on field-flight screens in Madison Parish totaled 22, as compared with 115 in 1939 and 283 in 1938.

Oklahoma. C. F. Stiles (September 27): Only extreme southeastern counties suffered any marked damage; unusually dry weather in that section since August 15.

Texas. K. P. Ewing, et al. (August 31): Serious damage caused in McLennan County. Reported as causing injury to small and half-grown bolls. (September 21): Infestation continuing in abundance in fields containing squares.

Correction.--In the September 1, 1940 Bulletin, the note at the bottom of page 370 should read: "Boll weevil damage, although abnormally light except in Texas \* \* \*."

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas. R. E. McDonald (September 3): Only 1 larva found on August 29 at the gin outside of area under quarantine at Davis Switch, in Atascosa County. (Det. by H. W. Capps.) During week ended August 28, 142 specimens were taken from gin at El Indio, in Maverick County, only a few specimens having previously been taken at that point. On August 29, 5 were taken from trash collected at the gin in Millet, La Salle County, the first ones found in this county this year. One found in Brooks County, also the first of the year.

A. J. Chapman (August 24): Average percentage boll infestation for 15 fields in Presidio County was 2.1 percent, averaging 7.3 bolls per plant, as compared to 4.4 percent last year, with an average of 6.4 bolls per plant. (August 31): Average green boll infestation in 31 fields distributed throughout Rio Grande Valley, Presidio County, during the latter half of August was 2.71 percent, with an average of 6.4 bolls per plant.

Infestation in individual fields ranged from 0 to 20 percent. Heaviest infestation located in Candelaria area. Average infestation in 22 identical fields was 3.55 percent, with 6.7 bolls per plant, as compared to 4.91 percent with 6.0 bolls per plant in 1939. Fields located in heavily flooded area on May 8 show a lower infestation than those not affected by rain and hail. (September 7): Infestation counts made in 14 fields located in



the vicinity of Presidio, Presidio County, showed that the average percentage of bolls infested was 12.21, with an average of 5.0 bolls per plant and 15,710 larvae per acre. Percentage infestation in individual fields ranged from 0 to 53 percent, and larval population ranged from 0 to 102,933 larvae per acre. Boll records indicate that the infestation in the vicinity of Presidio is about the same as last year. (September 14): Green boll infestation counts made in 31 fields distributed throughout the Presidio Valley during the period September 1 to 14, inclusive. Average infestation was 7.93 percent, with an average of 5.29 bolls per plant and 9,155 larvae per acre. Infestation in individual fields ranged from 0 to 53 percent, the larval population ranging from 0 to 102,935. (September 21): Counts made in 14 fields located in the vicinity of Presidio, 13 of which were recorded in 1939. Average infestation in 1940 was 37.46 percent, ranging from 1 to 100 percent, with an average of 3.80 bolls per plant, ranging from 2.1 to 7.0, and an average of 48,133 larvae per acre, ranging from 298 to 265,010. In 1939 the average infestation was 42.83 percent, ranging from 5 to 95 percent, with an average of 2.08 bolls per plant, ranging from 0.6 to 4.4 and an average of 26,574 larvae per acre, ranging from 314 to 71,381.

BOLLWORM (*Heliothis armigera* Hbn.)

Georgia. P. M. Gilmer, et al. (September 1): Rather severe damage noted in many fields in Tift, Cook, Berrien, Lowndes, and Echols Counties. Less severe than last year, but considerably above that of an average year. (September 21): Damage is about at an end. Somewhat serious in some sea-island fields, but much less than that of last year.

Florida. C. S. Rude (September 7): Still numerous in many cottonfields.

Alabama. J. M. Robinson (August 21): Reported as being present on cotton at Monroeville and Auburn.

Mississippi. R. L. McGarr, et al. (August 31): Noted as still doing a little damage in cotton examined in Oktibbeha County.

E. W. Dunnam, et al. (September 7): Two serious infestations reported near Clarksdale.

Texas. F. L. Thomas (August 27): Spotted injury throughout State, in bottomlands only, having destroyed both squares and bolls for several weeks in some of the river and creek bottoms. Severe

A. J. Chapman (August 24): Very few larvae found in fields in Presidio County. Insect caused considerable losses in cotton that was replanted following hail and rain on May 8. Most severe damage was in fields where cotton was rank and succulent.

Arizona. W. A. Stevenson (August 31): Investigation made of recent outbreak in several fields of long-staple cotton near Eloy, Pinal County. Considerable damage especially on squares. Few larvae and eggs could be found. Egg parasites had recently been released in affected sections.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Georgia. T. L. Bissell (September 10): Reported as appearing on cotton at Carnegie, southwestern Georgia. No damage.

O. I. Snapp (September 21): More abundant than for 4 or 5 years, appearing later than usual around Fort Valley. Cotton plants have been defoliated in some fields.

P. M. Gilmer, et al. (September 1): Sporadic infestations noted in Tift, Cook, Berrien, Lowndes, and Echols Counties. Some ragging but no stripping. Less generally distributed than average for this date. (September 21): Considerable ragging and some stripping noticeable in some untreated fields.

Florida. C. S. Rude (August 31): Serious in fields near Ocala and Anthony, Marion County. A great many first-instar larvae in these fields.

Tennessee. G. M. Bentley (September 25): No trace of insect revealed, which is unusual, as in some years scarcely a cottonfield escapes without attack.

Mississippi. C. Lyle (September 25): Reported as present in Coahoma and Waltham Counties and doing a small amount of damage in the southeastern part of the State.

R. L. McGarr, et al. (August 31): Larvae observed for first time in Oktibbeha County on August 26.

E. W. Dunnam and J. C. Clark. (September 28): One full-grown larva found in cotton at Stoneville on September 22. Heavy infestation found on same date at Anguilla in Sharkey County. Heavy ragging on about 1 acre.

Louisiana. R. C. Gaines, et al. (September 21): Few have been observed in young cotton in Madison Parish.

I. J. Beemel (September 28): Very heavy infestations throughout the Red River parishes. Cotton completely defoliated in most fields in northwestern Louisiana.

Texas. F. L. Thomas (August 27): Less injurious than for many years in central and eastern Texas.

K. P. Ewing, et al. (September 7): Scattered worms may be found in fields of comparatively rank cotton in McLennan County.

A. J. Chapman (September 14): Second generation hatched and larvae are defoliating the cotton in a good many of the fields in Presidio County.

APHIDS (Aphidae)

Georgia. P. M. Gilmer, et al. (September 1): Very heavy infestation in most well-treated fields of sea-island cotton in Tift, Cook, Berrien, Lowndes, and Echols Counties. Untreated cotton averages light infestations in most fields. (September 14): Again increasing in numbers especially in very late-treated sea-island fields. (September 21): Present in diminishing numbers, a few fields having enough to cause some lint damage from honeydew.

Mississippi. C. Lyle (September 25): Aphis gossypii Glov. infestations reported from the Meridian and Durant districts.

R. L. McGarr, et al. (August 31): Aphids very numerous in many of the plots of the field-plot control cuts in Oktibbeha County.

E. W. Dunnan, et al. (August 31): Slight increase of small yellow aphid forms on untreated cotton in Washington County. Population increased by about four times during the week. Large forms noted in one case at Stoneville. (September 28): Aphids decreasing.

Louisiana. I. J. Becnel (September 28): Infestations very severe on treated blocks at University. Sooty mold is causing considerable discoloration of lint.

R. C. Gaines, et al. (September 7): Observations during week in Madison Parish indicate that infestation is heavy in most plots treated for boll weevil but which had not received treatment for aphid. (September 21): Infestations still heavy in some fields in Madison Parish that were treated for boll weevil control.

Texas. K. P. Ewing, et al. (September 14): More abundant at present in McLennan County than observed since cotton was very small. Very abundant and causing considerable honeydew in the treated plots in three experiments at Mexia.

A PENTATOMID (Chlorochroa ligata Say)

Texas. A. J. Chapman (August 10): Abundant enough in Presidio County to cause damage. Spotted infestation but in certain fields the resulting damage was severe. (August 24): Abundant in most of the fields in Presidio County, causing considerable damage. (September 14): Have just about disappeared in Presidio County, only an occasional adult having been found during last week.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Oklahoma. C. F. Stiles (September 16): Doing some damage to late squares in Grady County.

Texas. F. L. Thomas (August 27): Less injurious than for many years in central and eastern Texas. Caused only slight damage.



COTTON LEAF PERFORATOR (Bucculatrix thurberiella Busck)

Arizona. W. A. Stevenson (September 17): More prevalent than in many years in the Marana section of Pima County, but it is doubtful whether any commercial damage has occurred, as cotton in affected fields is practically mature.

RED SPIDERS (Tetranychus spp.)

Mississippi. E. W. Dunnam, et al. (September 21): Many small infestations found in Washington County. No complaints received.

Louisiana. R. C. Gaines, et al. (September 21): Present in most cottonfields in Madison Parish.

WHITEFLIES (Aleurodidae)

South Carolina. F. F. Bondy, et al. (August 31): Few whiteflies in the cotton in Florence County.

F O R E S T   A N D   S H A D E - T R E E   I N S E C T S

FALL WEBWORM (Hyphantria cunea Drury)

Virginia. L. A. Hetrick and A. M. Woodside (September 13): Common on both persimmon and sorrel tree, or sourwood, in the southern part of the State from Norfolk west to Danville and north to West Point and Lynchburg.

North Carolina. O. I. Snapp (September 3): Unusually heavy infestation on persimmon observed in vicinity of Walnut Cove, northwestern part of State.

South Carolina. F. Sherman and W. C. Nettles (September 24): Abundant as usual on pecan and persimmon, the latter being its chief wild host.

Mississippi. C. Lyle (September 25): Continued heavy infestations reported from over practically all the northern two-thirds of the State.

Michigan. R. Hutson (September 23): Normally abundant throughout central part of Lower Peninsula.

Ohio. E. W. Mendenhall (September 11): Very noticeable along drives and roadsides, especially in the northern counties along Lake Erie. Attack various trees, being found especially on wild cherry, willow, and mulberry.

SPRING CANKERWORM (Paleacrita vernata Peck)

Illinois. W. P. Flint (September 25): Recent examinations of overwintered pupae in the soil indicate that most of them are apparently healthy and that they are numerous enough to constitute a threat for a serious outbreak next spring.



SADDLED PROMINENT (Heterocampa guttivitta Walk.)

New Hampshire. T. J. Parr (August 23): Moderate-to-heavy feeding noted in mixed hardwood stands at Wonalancet. Only diseased larvae found.

PALE TUSsock MoTH (Halisidota tessellaris A. & S.)

Connecticut. J. V. Schaffner, Jr. Larvae unusually common in many localities in New Haven County.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Maryland. E. N. Cory (September 23): Generally present on evergreens.

Virginia. H. G. Walker and L. D. Anderson (September 24): Abundant in Norfolk area during July and August, defoliating some trees.

L. A. Hetrick (September 14): Specimens sent in from King and Queen County with report that they had defoliated an ornamental arborvitae.

South Carolina. F. Sherman and W. C. Nettles (September 24): Occasional complaints received.

Alabama. J. M. Robinson (August 30): Reported as attacking cedar trees at Jasper.

Mississippi. C. Lyle (September 25): Specimens received from Chickasaw County, and reports of injury from Newton County and the Meridian district.

Ohio. E. W. Mendenhall (September 21): Very serious on evergreen and deciduous trees in Newark, Licking County.

TWO-MARKED TREE HOPPER (Enchenopa binotata Say)

New Jersey. E. P. Felt (September 24): Egg masses abundant on Hophornbeam near Orange, N. J.

A COCCID (Aspidiotus osborni Nawn. & Ckll.)

Delaware. R. M. Conwell (September): Attacking twigs of holly at Milton. (Det. by H. Morrison.)

Wisconsin. E. L. Chambers (September 26): Oak scale observed on row of pin oak trees in a nursery, the trees having been shipped in from out-of-State nurseries where they were grown. (Det. by H. Morrison.)

EUROPEAN FRUIT LECANIUM (Locanium corni Bouche)

New York. R. E. Horsey (September 23): Numerous on tupelo trees, 35 feet tall and branched to the ground, in an ornamental planting at Rochester; edges of small leaves curling.

WALKINGSTICKS (Phasnidæ)

Wisconsin. E. L. Chambers (September 26): Diapheromera femorata Say caused serious damage to raspberry plantings, plum, and apple trees, as well as birch, poplar, and oak, in an area some 6 miles square, according to observations on September 20. Forest trees pretty well stripped throughout the area and raspberry patches practically defoliated, defoliation being most severe where patches were close to woodlots. From 12 to 15 found on a single bush.

Missouri. L. Haseman (September 24): Heavier feeding by walkingsticks than usual on foliage of oak and various other shade, forest, and fruit trees throughout central Missouri. Many trees and shrubs almost defoliated. Still feeding and mating today.

ASH

AN APHID (Prociphilus fraxinifolii Riley)

Utah. G. F. Knowlton (August 30): Seriously rolled leaves of ash trees at Lehi.

BIRCH

BRONZED BIRCH BORER (Agrilus anxius Gory)

Ohio. E. W. Mendenhall (September 18): Severe damage in Lake and Cuyahoga Counties, in northeastern Ohio. (September 21): Seriously damaging birch trees at Columbus.

BIRCH SKELETONIZER (Bucculatrix canadensisella Chamb.)

New York. R. E. Horsey (September 24): Great number noticed on large river birch in an ornamental planting in Rochester. Leaves badly skeletonized, the worst infestation seen in years by the writer.

BIRCH LEAF MINER (Femisa pusilla Lep.)

Rhode Island. B. Eddy (September 24): Very heavy this year.

AN APHID (Luceraphis betulæ Koch)

New York. M. D. Leonard (September 25): Number of birch trees on New York World's Fair Grounds at Flushing have shown a fair infestation during the month.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

Michigan. R. Hutson (September 23): Common at Flat Rock and Ypsilanti.

Wisconsin. E. L. Chambers (September 26): Reported as very abundant in the southern part of the State and also in Clark, La Crosse, and Trempealeau Counties.

Alabama. J. M. Robinson (September 2): Reported as attacking a maple tree at Boaz.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Bdv.)

Oklahoma. F. A. Fenton (September 28): Outbreak in and around Tulsa, causing defoliation of many trees. Caterpillars are apparently heavily parasitized.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Rhode Island. B. Eddy (September 24): Very heavy but ~~controlled~~ where treatment was used.

Utah. G. F. Knowlton (September 13): Seriously attacking large elms at Smithfield.

Washington. L. G. Smith (August 19): Reported as being very common on elm trees in Yakima County.

LARGER ELM LEAF BEETLE (Monocesta coryli Say)

Georgia. O. I. Shapp (July 25): Very abundant on elm trees at Montezuma in southern Georgia. Also observed at Fort Valley, central Georgia, several weeks later. (Det. by H. S. Barber.)

Mississippi. M. L. Grimes (September 25): Larvae and adults feeding on elm in Lauderdale and Newton Counties early in September. First record of species in Mississippi since 1895.

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

Utah. G. F. Knowlton (August 28): Larvae stripped foliage from some Siberian elm trees at Salt Lake City, Provo, Farmington, and Logan.

AN APHID (Tuberculatus ulmifolii Monell)

New York. M. D. Leonard (September 25): Infestation of elm trees increasing on the World's Fair Grounds at Flushing. Infestation not noticeable until about September 1, and now there is quite a population and much honeydew evident on many trees. Some two-spotted ladybird beetles present.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Wisconsin. E. L. Chambers (September 26): Still restricted to a few cities; now found in Fond du Lac.

Nebraska. H. D. Tate (August 17): Heavy infestations observed on elm trees at  
Kimball. Specimens received on August 17.

Utah. G. F. Knowlton (August 28): Injury observed on several shade elms at  
Salt Lake City.

#### HACKBERRY

##### HACKBERRY NIPPLE GALL (Pachysylla celtidis-mamma Riley)

Wisconsin. E. L. Chambers (September 23): Adults reported causing considerable  
nuisance by overrunning homes near infested trees in Sparta.

#### LINDEN

##### AN APHID (Myzocallis tiliae L.)

New York. M. D. Leonard (September 25): Several linden trees on World's Fair  
Grounds at Flushing have recently developed a considerable infestation.

#### LOCUST

##### LOCUST LEAF MINER (Chalepus dorsalis Thumb.)

Massachusetts. A. I. Bourne (September 24): Moderate injury on locusts on  
college campus at Amherst and in the nearby towns in the Connecticut  
Valley. Beetles started to emerge on August 22.

E. P. Felt (September 24): Abundant on oak foliage near Cambridge and  
also at Greenfield.

Rhode Island. B. Eddy (September 24): Very heavy this year.

Tennessee. G. M. Bentley (September 25): Highly skeletonized leaves of locust.  
Generally distributed throughout eastern counties.

##### SILVER-SPOTTED SKIPPER (Proteides clarus Cram.)

Connecticut. A. De Caprio (September 10): Several small black locust trees al-  
most entirely stripped at Granby.

##### LOCUST TWIG BORER (Ecdytolopha insiticiaria Zell.)

Michigan. R. Hutson (September 23): Working in twigs of black locust.

Georgia. T. L. Bissell (September 21): Black locust twigs at Experiment common  
infested on September 2.



MAPLE

GREEN-STRIPED MAPLE WORM (Anisota rubicunda F.)

Vermont. H. L. Bailey (August 30): Sugar-maple orchard of approximately 300 trees practically defoliated at Newark, Caledonia County, northwestern Vermont. Feeding less noticeable in surrounding country. Larvae crawling on trunks of trees but feeding practically over on August 29. (September 28): Very abundant at Newark. One sugar-maple orchard nearly defoliated; 50-percent defoliation noted elsewhere in vicinity.

A CERAMBYCID (Anthoboscus ruricola Oliv.)

Massachusetts. W. B. Becker (September 9): Larvae taken from a maple tree which was cut down recently on the campus of Mount Holyoke College at South Hadley. (Det. by W. H. Anderson.)

MOUNTAIN ASH

A SAWFLY (Pristiphora geniculata Htg.)

New Hampshire. T. J. Parr (September 10): From heavy defoliation to complete stripping of mountain ash noted in the Waterville Valley, Wonalancet, Bartlett, and Crawford Notch areas in the White Mountains of New Hampshire on August 20 to 31.

Vermont. T. J. Parr (September 10): Mountain ash defoliated, and in some cases completely stripped, in the Middlebury Gap area in the Green Mountains of Vermont on August 20 to 31. All larvae had spun cocoons.

OAK

ORANGE-STRIPED OAK WORM (Anisota senatoria A. & S.)

Vermont. H. L. Bailey (September 2): Larvae stripping white oak trees in Charlotte, Chittenden County, western Vermont.

TWIG PRUNER (Hypermallus villosus F.)

Massachusetts. A. I. Bourne (September 24): Damage throughout western part of State much lighter than normal. Seemed much more prevalent and more conspicuous in the eastern, and particularly the northeastern part of the State.

Michigan. R. Hutson (September 23): Reported as numerous at Alma.

A BORER (Agrilus arcuatus Say)

Wisconsin. E. L. Chambers (September 26): Considerably damaged oak trees throughout southern Wisconsin, clipping off many branches.

A LEAF MINER (Lithocolletis hamadryadella Glen.)

Connecticut. E. P. Felt. (September 24): Somewhat abundant and injurious to white oak in southwestern Connecticut.

New York. E. P. Felt (September 24): Rather abundant and injurious to white oak in southeastern New York.

RED-HUMPED OAK CATERPILLAR (Synmerista albifrons A. & S.)

Connecticut. E. P. Felt (September 24): Unusually abundant and injurious in both Fairfield and Stamford.

GOLDEN OAK SCALE (Asterolecanium variolosum Ratz.)

New Jersey. E. P. Felt (September 24): Abundant on oak at Orange.

Wisconsin. E. L. Chambers (September 26): Abundant on native oak growing in village of Whitefish Bay. Has been becoming more severe in the last few years.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

New York. E. P. Felt (September 24): Somewhat injurious at Scarsdale.

Ohio. E. W. Mendenhall (September 21): Very abundant in northeastern Ohio and found on Scotch pine and some other pines in Lake County.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Const.)

Massachusetts. W. B. Becker (August 9): Infesting pine tips sent from Harwichport. (Det. by C. Heinrich.)

Mississippi. C. Lyle (September 25): Larvae received and thought to be this species from Coahoma County, where they were causing injury to pine tips.

PITCH-MASS BORER (Parharmonia pini Kellicott)

New York. J. V. Schaffner, Jr. (September 13): Injury common in some plantations of Scotch pine in Saratoga County.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

New York. J. V. Schaffner, Jr. (September 23): Reported as being locally abundant in pine plantations in the vicinity of Bleeker, Canton, and Tupper Lake.

Maryland. E. N. Cory (September 17): Present on white pine at Hagerstown.

Virginia. L. A. Hetrick (September 14): Second-generation larvae feeding on ornamental doodar in Mathews and James City Counties.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Nebraska. H. D. Tate (September 11): Infested evergreen twig received from Furnas County.

POPLAR

COTTONWOOD BORER (Plectrodera scalator F.)

Nebraska. H. D. Tate (August 31): Specimen sent in from Douglas County.

SERVICEBERRY

LACEBUGS (Tingidae)

Utah. G. F. Knowlton (August 28): Observed on foliage of serviceberry in Uinta Canyon.

SPRUCE

EUROPEAN SPRUCE SAWFLY (Gilpinia polytoma Htg.)

Vermont. H. L. Bailey (September 28): Infestation greatly reduced in intensity. Very few larvae or cocoons found during September, even in Wilmington area, where much defoliation occurred in 1938-39.

EASTERN SPRUCE BEETLE (Dendroctonus piceaperda Hopk.)

New Hampshire and Vermont. T. J. Parr (September 24): Increased infestation of spruce trees in the vicinity of Crawford Notch, N. H., and on a permanent sample strip in Dattell Park, near Middlebury Gap, Vt.

A SCALE (Chrysomphalus sp.)

Pennsylvania. J. F. Sleesman (September 21): Found heavily infesting a species of blue spruce in a nursery at West Chester.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

New Jersey. A. E. Lantz (August 15): Causing heavy defoliation of Butternut from Allentown to Easton and Dancor.

Ohio. E. W. Mendenhall (September 23): Very abundant on walnut trees in Licking County and central Ohio. Some trees nearly defoliated.

Wisconsin. E. L. Chambers (September 26): Responsible for serious defoliation of walnut and hickory trees generally throughout the State.

Oklahoma. C. F. Stiles (September 27): Reported as doing some damage to pecan foliage in Oklahoma County.



BUTTERNUT CURCULIO (Conotrachelus juglandis Lec.)

New York. E. P. Felt (September 24): Found in small numbers on a heartnut at  
Yonkers.

WILLOW

EUROPEAN WILLOW LEAF BEETLE (Plagiodera versicolora Laich.)

Vermont. H. L. Bailey (September 28): Moderately abundant at Montpelier and  
vicinity, Washington County, central Vermont.

AN APHID (Chaitophorus vininalis Monell)

Utah. G. F. Knowlton (August 28): Willows at Heber and near Logan heavily in-  
fested.

I N S E C T S   A F F E C T I N G   G R E E N H O U S E

A N D   O R N A M E N T A L   P L A N T S

CHINCH BUG (Blissus leucopterus insularis Barb.)

South Carolina. W. C. Nettles (September 10): Specimens located on Saint  
Augustine grass and collected in Kingstree during first half of August.  
(Det. by H. G. Barber.)

PURSLANE BUG (Geocoris bullatus Say)

Massachusetts. A. I. Bourne (September 11): Reported as present in considerable  
numbers and causing serious injury to lawn in Worcester County. Specimens  
received. (Det. by H. G. Barber.)

WHITEFLIES (Dialeurodes spp.)

Georgia. O. I. Sharp (September 20): Very abundant and causing considerable dam-  
age to privet and ornamental shrubbery around homes in Fort Valley,  
central Georgia.

TOMATO STILT BUG (Jalysus spinosus Say)

Virginia. C. A. Weigel (September 10): Present in August on snapdragon and weeds  
at Culpeper. (Det. by H. G. Barber.)

A MEALYBUG (Phenacoccus artemisiae Ehrh.)

New York. A. Vothelin (August 28): Specimens taken from portulaca and aster  
in New York City. (Det. by H. Morrison.)

OYSTERSHELL SCALE (Lepidosaphes ulmi L.)

- Ohio. E. W. Mendonhall (September 11): Very bad and causing some damage on pussy willow trees and lilac bushes in Lake County.
- Utah. G. F. Knowlton (August 28): Heavily attacking poplar and willow in several northern Utah localities.
- Washington. L. G. Smith (August 14): Reported as being very common on apple and pear trees in Kittitas County.

EUROPEAN FRUIT LECANIUM (Locanium corni Bouche)

- New York. R. E. Horsey (September 7): Found on a small Cercis canadensis tree at Rochester. Abundant on a few branches. (Det. by E. Morrison.)

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

- South Carolina. F. Sherman and W. C. Nettles (September 24): Infestation noted in Lexington County.
- Mississippi. C. Lyle (September 25): Very heavy infestation reported from Jackson County, with several lighter infestations in Jackson and Harrison Counties.

IO MOTH (Automeris io F.)

- Maryland. W. H. Youngman (September 28): Almost covered flowering almond bushes at Takoma Park. (Det. by J. A. Hyslop.)

THRIPS (Thysanoptera)

- Mississippi. M. L. Grimes (September 25): Causing damage to rose and dahlia flowers in the Meridian district.

A PYRALIDID (Ulophora grotai Rag.)

- Alabama. F. S. Arant (September 9): Several larvae collected from seed pods of devil's-shoestrings. (Det. by C. Heinrich.)

AZALEA

AZALEA LACE BUG (Stephanitis pyrioides Scott)

- Maryland. E. N. Cory (September 12): Present on azalea at Baltimore.

AZALEA SCALE (Eriococcus azaleae Const.)

- North Carolina. C. S. Brinley (August 19): Specimens on twigs of azalea received from Fayetteville. (Det. by H. Morrison.)

CAMELLIA

A TORTRICID (Pseudaonidia paeoniae Ckll.)

Texas. J. U. Crockett (August 27): Specimens on twigs of Camellia japonica sent from Houston. (Det. by H. Morrison.)

CAMPHOR

CAMPHOR THRIPS (Liothrips floridensis Watson)

Mississippi. T. F. McGehee (September 25): Causing injury to camphor trees in the Gulfport area.

DAHLIA

SUNFLOWER WEEVIL (Rhodoaenus tredecimpunctatus Ill.)

Virginia. L. A. Hetrick (September 15): Larvae and pupae found in dahlia stems at West Point.

Wisconsin. E. L. Chambers (September 10): Severely damaging dahlias at Madison, the stalks being completely riddled just about time for the plants to come into full bloom. Specimens received. (Det. by L. L. Buchanan.)

DOGWOOD

A BEETLE (Oberea tripunctata Swed.)

Pennsylvania. A. Muller (August 26): Not a serious pest but rather abundant on flowering dogwood and on Cornus stolonifera and its varieties in some nurseries at Norristown.

DOGWOOD CLUB GALL (Mycodiplosis alternata Felt)

New England. E. P. Felt (September 24): Somewhat common in southern New England

New York. E. P. Felt (September 24): Rather common in southeastern New York.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Maryland. E. N. Cory (September): Present in Baltimore County.

Virginia. H. G. Walker and L. D. Anderson (September 24): More abundant than usual in Norfolk area.

Alabama. J. M. Robinson (August 26): Reported as attacking evergreen trees in Alexander City.



Mississippi. C. Lyle (September 25): Specimens received from Coahoma, Madison, and Montgomery Counties. Heavy infestations reported in the Grenada and Meridian areas and in Sunflower County.

Texas. R. K. Fletcher (September 13): Causing severe injury to Euonymus japonicus in Tom Green County on September 13.

#### FIRETHORN

##### A LACEBUG (Corythucha cydoniae Fitch)

New Jersey. E. P. Felt (September 24): Abundant on hawthorn at Plainfield.

South Carolina. C. F. Rainwater (September 24): Specimens collected at Florence. Severely injuring Pyracantha. (Det. by H. G. Barber.)

Alabama. L. L. English (September 9): Specimens taken from Pyracantha formosana and P. lalandi. (Det. by H. G. Barber.)

Washington. E. J. Newcomer (September 13): Very abundant on quince at Zillah.

#### GLADIOLUS

##### GLADIOLUS THRIPS (Taeniothrips simplex Morison)

Connecticut. E. P. Felt (September 24): Injurious to gladioli at Bridgeport.

Ohio. E. W. Mendenhall (September 10): Quite bad in gladiolus plantations in Perry Township, Lake County.

Mississippi. M. L. Grines (September 25): Light infestations observed in the Meridian district.

#### HOLLY

##### A SCALE INSECT (Asterolecanium sp.)

Delaware. R. M. Conwell (September 17): Specimens on twigs of holly. Seen on holly trees in various places for years. Affected limb generally dies. (Det. by H. Morrison.)

#### LILAC

##### LILAC BORER (Podosesia syringae Harr.)

Massachusetts. W. B. Becker (August 29): Specimen of larva found boring in the stem of a lilac plant. (Det. by C. Heinrich.)

Nebraska. H. D. Tate (September 16): Samples of infested wood from lilac bushes sent in from Perkins County.

MAGNOLIA

A SCALE (Toumeyella turgida Ckll.)

Mississippi. C. Lyle (September 25): Specimens on magnolia sent in from Leflor County.

OLEANDER

POLKA DOT WASP MOTH (Syntomeida epilais Walk.)

Florida. J. R. Watson (September 23): Has not reappeared in Gainesville section this fall.

OLEANDER SCALE (Aspidiotus hederæ Vallot)

Nebraska. H. D. Tate (September 9): Infested oleander leaves sent in from Dund County.

PRIVET

A BORER (Pyrausta gracilalis Hulst)

California. E. O. Essig (September 23): Very abundant on various kinds of privet hedges and grass lawns in middle and northern California. (Det. by H. H. Keifer.)

ROSE

ROSE CURCULIO (Rhynchites bicolor F.)

Utah. G. F. Knowlton (August 28): Injury severe in some gardens at Salt Lake, Springville, and Ogden.

RUSTY BROWN TORTRIX (Sparganothis flavedana Clem.)

Maryland. C. A. Weigel (August 7): Moth damaging rose in greenhouse at Glen Burnie. (Det. by J. F. G. Clarke.)

ROSE SCALE (Aulacaspis rosæ Bouche)

North Carolina. Mrs. C. E. Gregory (September 2): Specimens collected on rose at Morgantown. (Det. by H. Morrison.)

WATERLILY

WATERLILY APHID (Rhopalosiphum nymphææ L.)

New York. M. D. Leonard (September 25): Appeared during last 3 weeks on waterlily plants on the World's Fair Grounds. Many pads and flower stalks considerably infested.

INSECTS ATTACKING MAN AND  
DOMESTIC ANIMALS

MAN

MOSQUITOES (*Culicinae*)

- South Carolina. F. Sherman and W. C. Nettles (September 24): Reported as more numerous generally.
- Florida. W. V. King (September 1): Heavy outbreaks of Aedes taeniorhynchus Wied. reported in Dade, Brevard, and Sarasota Counties, and a moderate flight in St. Lucie County.
- Tennessee. T. W. Simpson (July 3): Larvae of A. tormentor D. and K. collected from shallow temporary pool in a swamp near Walnut Log. New record for this uncommon species in this locality.
- Kentucky. T. W. Simpson (September 2): Adult female of A. bimaculatus Coq. collected while biting in dense woodlands near Bondurant. New record in this locality.
- Illinois. W. P. Flint (September 25): Severe outbreak of A. vexans Meig. in middle of September throughout central Illinois.
- Missouri. L. Hasenah (September 25): Mosquitoes much less abundant in central Missouri.
- Utah. G. F. Knowlton (September 18): A. dorsalis Meig. extremely abundant and annoying to man and livestock in Timpie-Dolomite-Flux area of Tooele County. (September 24): A. nigromaculis Ludl. causing annoyance on farms west of Logan, Cache County. A. dorsalis very annoying on farms west of Logan, Cache County.

A SANDFLY (*Culicoides furens* Poey)

- Florida. J. B. Hull (September 1): Reported as almost completely absent at Fort Pierce and Saint Lucie during first part of August. Caused much annoyance to residents in these same localities after August 16, owing to heavy rains.

CAT FLEA (*Ctenocephalides felis* Bouche)

- Vermont. H. H. Stage (August 21): Reported as causing considerable disturbance to a family in Burlington. (Det. by I. Fox.)
- Massachusetts. H. L. Trembley (August 14 and 16): Specimens submitted from infested houses in Salem and Peabody, where occupants were being bitten.
- Illinois. H. H. Stage (August 18): Reported as biting humans in a residence in Chicago. (Det. by H. L. Trembley.)



BEDBUG (Cimex lectularius L.)

Ohio. T. H. Parks (September 14): Received from Greene County with statement that they were very abundant in a poultry house.

Nebraska. H. D. Tate (September 16): Reported from Richardson and Buffalo Counties on August 27 and September 3, respectively.

CHIGGER (Eutrombicula alfreddugesi Oud.)

Illinois. H. H. Stage (August 12): Reported as heavily infesting a wooded tract of land at Palatine.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Oregon. E. F. Knipling (August 26): Reported as biting members of an office force in a Portland office building said to be infested with rats. (Det. by H. E. Ewing.)

A GNAT (Hippelates pallipes Loew)

Maryland. H. L. Trembloy (September 8): Extremely numerous around dog's head and also annoying to human beings on Wicomico River.

DEERFLIES (Chrysops spp.)

New Hampshire. H. H. Stage (July 30): C. lateralis Wied. and C. vittata Wied. reported as severely biting human beings at Contoocook.

BROWN DOG TICK (Rhipicephalus sanguineus Latr.)

Nebraska. H. D. Tate (September 16): Specimens submitted from Douglas County. (Det. by F. C. Bishopp.)

Texas. D. C. Farman (September 1): Noted on dogs at Uvalde.

Colorado. H. L. Trembloy (August 29): Reported from Fort Collins.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Massachusetts. C. N. Smith (September 6): Activity of adults declined sharply during month at Vineyard Haven, ticks entirely disappearing from many areas. Larval and nymphal abundance continued at a low level.

California. P. Simmons (September 14): Specimen, attached to his person, brought in by a resident of Fresno, who had attended circus on a lot on the outskirts of the city but had not been out of town. (Det. by F. C. Bishopp.)

BLACK WIDOW SPIDER (Latrodectus mactans F.)

Virginia. J. G. Pratt (September 3): Overrunning gardens and woodpiles at Wakefield.

Nebraska. H. D. Tate (September 13): Specimen received from York County.

Utah. G. F. Knowlton (September 18): Several reports received from homes in northern Utah.

### CATTLE

#### SCREWORM (Cochliomyia americana C. & P.)

Florida. W. E. Dove (September 23): Scarce in southern part of Florida.  
(September 26): No cases reported from western Florida during month.

Oklahoma. C. F. Stiles (September 27): Reported as doing more damage in the Red River counties than in a number of years. Carter, Love, and Jefferson Counties most heavily infested.

W. G. Bruce (September 24): Numerous infestations reported in Jefferson County. More numerous than in 1935, when there was a general outbreak.

Texas. W. G. Bruce (September 24): Two cases in dehorned cattle on laboratory premises at Dallas.

D. C. Parnan (September 1): Fly populations built up rapidly under influence of favorable weather conditions during June. During July and the first of August population decreased rapidly, but maintained considerable reserve, which permitted a rapid build-up after rains began on August 14. Last trapping period, August 15 to 31, attended by an increase in fly population. Strong reserve at this time makes it imperative that special care be taken by ranchmen to prevent exposing wounds to attack.

E. C. Cushing (September 11): Abundant and active during first 10 days of month at Menard.

#### STABLEFLY (Stomoxys calcitrans L.)

Maryland. H. L. Trembley (September 23): Numerous and very annoying on Wicomico River.

South Carolina. R. G. Kuerzi (September 2): Sudden infestation reported at Myrtle Beach on August 31, which reached a peak on September 2. Decreased rapidly with appearance of barn and tree swallows.

Florida. W. E. Dove (September 24): Most prevalent along coast from Pensacola to Apalachicola. Some reports received from as far south as Carrabelle.

Texas. D. C. Parnan (September 1): Not generally present at Uvalde until after recent rains.

W. G. Bruce (September 24): Fairly abundant on cattle at Waurika.

HORN FLY (Haematobia irritans L.)

Florida. W. E. Dove (September 26): Unusually abundant in dry areas of northwestern Florida, often about 2,000 on a single animal. About the same numbers found during latter part of month on herds along the east coast.

Oklahoma. W. G. Bruce (September 17): Heavy infestation on cattle near Waurika,

Texas. D. C. Parman (September 1): Not generally present last month at Uvalde until after recent rains, when an increase was noted, especially in the hills.

E. C. Cushing (September 3): Seventeen animals examined on August 30 showed a population of 2,000 flies, ranging from 10 to 400 flies per animal and averaging 118 flies per head. Average increased to 179 on September 1, and on September 3 average was 150 per head. (September 11): Average of 97 flies per head on 25 yearling cattle observed today at Monard.

W. G. Bruce (September 1): Less numerous on a ranch at Cresson during month ended August 14 than at any time observed in the last 3 years. (September 24): Infestations on increase at Cresson. No marked increase at Dallas.

COMMON CATTLE GRUB (Hypoderma lineatum De Vill.)

Texas. E. C. Cushing (September 11): Twenty-four yearling cattle examined at Monard had 52 cattle grubs, the numbers ranging from 0 to 12 per animal. Sixteen showed no infestation. Two of this same group of animals examined on September 4 showed infestations of 8 and 4.

HORSE

AMERICAN GADFLY (Tabanus americanus Forst)

New Jersey. H. D. Fields (August 30): Collected at Glassboro. No host. (Det. by A. Stone.)

Florida. W. E. Dove (September 15): T. atratus F. present about animals at Panama City. Observed frequently during last few weeks.

Missouri. L. Haseman (September 25): Ceased to attract any attention during first part of September.

Texas. D. C. Parman (September 1): Light population present in Uvalde during August.

A SIMULIID (Simulium vittatum Zett.)

Washington. E. F. Knipling (September 10): Collected from ears of horses at Yakima on August 24. (Det. by A. Stone.)



POULTRY

CHICKEN MITE (Dermanyssus gallinae Deg.)

Nebraska. H. D. Tate (September 6): Reported from Douglas County.

SHEEP

SHEEP KED (Melophagus ovinus L.)

Texas. E. C. Cushing (September 3): Examinations of sheep on August 31 revealed only one or two parasites on one lamb.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Isoptera)

Maryland. E. N. Cory (September 23): Found in buildings in Baltimore County.

C. Lyle (September 25):

Mississippi. Termites reported as injuring buildings in Attala, Chickasaw, Hinds, Leflore, Simpson, Washington, and Yazoo Counties. More than usual number of complaints reported from northeastern counties, and more than usual damage to sweetpotatoes reported from southwestern counties.

Nebraska. H. D. Tate (September 16): Reticulitermes tibialis Banks reported as attacking Chinese elm trees in Harlan County.

Utah. G. F. Knowlton (September 4): Termite injury to homes increasing in Box Elder County.

Montana. H. B. Mills (August 31): R. tibialis damaging wooden understructures of residence at Helena.

ANTS (Formicidae)

Florida. W. Mathis (September 18): Wasmannia auropunctata Roger very numerous in a grapefruit grove near Fort Pierce.

J. C. Overpeck (September 18): Specimens of W. auropunctata sent in and reported as being on trees and in houses. (Det. by M. R. Smith.)

Mississippi. C. Lyle and assistants (September 25): Specimens of Camponotus caryae rasilis Wheeler received early in September from Harriston, with report that they were causing annoyance in a kitchen and a bedroom. Monomorium pharaonis L. reported as causing annoyance in house in the Gulfport district. Specimens of Iridomyrmex humilis Mayr received from Holmes County, and reports received from Anite, Monroe, and Pike Counties and in southwestern Mississippi areas not treated last year. Solenopsis xyloni McCook reported as numerous in Grenada County.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Hawaii. O. C. McBride (September 13): Abundant at Fort Shafter and vicinity. New pest in Hawaii. Presumably found entrance through Army supplies or personnel household goods coming from infested areas on the mainland. Specimens received.

GERMAN COCKROACH (Blattella germanica L.)

Mississippi. C. Lyle (September 25): Specimens received from Hinds County on August 24. Reported as abundant in many homes in the coast counties.

Nebraska. H. D. Tate (September 16): Specimens received from Butler County.

Utah. G. F. Knowlton (August 28): Causing annoyance in a high-school gymnasium at Logan.

Nevada. G. G. Schweis (September 18): Reported as being prevalent in many restaurants in western Nevada and very numerous in the department of veterinary science at the University of Nevada.

CRICKETS (Gryllidae)

Virginia. H. G. Walker and L. D. Anderson (September 25): Reported as migrating into houses and feeding on clothing during last 2 months at Norfolk.

Utah. G. F. Knowlton (September 18): Gryllus assimilis F. found invading home at Tooele.

WEBBING CLOTHES MOTH (Tineola biselliella Hun.)

Nebraska. H. D. Tate (August 29): Reported as being present in Colfax County.

BEEETLES (Coleoptera)

Massachusetts. A. I. Bourne (September 9): Mezium americanum Lap. reported from eastern part of Plymouth County along the South Shore. Specimen received.

Alabama. J. M. Robinson (September 18): Sitophilus oryza L. moderately abundant at Auburn.

Mississippi. C. Lyle (September 25): S. oryza reported as injuring corn in Newton and Pearl River Counties. Injury at State College less than last year.

Nebraska. H. D. Tate (August 24): Specimens of Stegobium paniceum L. received from Douglas County. (September 3): Specimens of Tribolium confusum Duv. found in barley and oats in Wayne County. (September 6): Specimens of Tenebrio molitor L. and Alphitobius diaperinus Panz. received from Douglas County. (September 7): Specimens of Tenebrio obscurus F. sent in from Gosper County. (September 9): Specimens of Sitophilus granarius L. submitted from Cedar County.

Utah. G. F. Knowlton (August 29): Palorus ratzeburgi Wissm. causing household annoyance in Salt Lake City and contaminating home flour supply.

A BEETLE (Buprestis lineata F.)

Massachusetts. A. I. Bourne (September 14): Specimen received from town of West Dennis, on Cape Cod. Reported as emerging from floor boards of a house.

POWDER POST BEETLES (Lyctus spp.)

Wisconsin. E. L. Chambers (September 26): Causing more damage each year in many sections of the State. Completely ruined two large barns, approximately 40 years old, in Brown County.

A PSOCID (Lachesilla pedicularia L.)

Indiana. J. J. Davis (September 13): Specimens received from Anderson. Annoying to occupants of a house. (Det. by A. B. Gurney.)